Se Technical Sub Committee
August 12th Meeting

August 12, 2019
1:30p – 3:00p PST / 2:30p – 4:00p MST

In attendance: Sheldon Reddekopp (co-chair; BC ENV), Lauren Sullivan (co-chair; MDEQ), Joe Beaman (USEPA), David DeForest (Windward Env.), Genny Hoyle (KTOI), David Janz (U. of Sask.), Karen Jenni (USGS), Heather McMahon (KNC) Theresa Presser (USGS), Erin Sexton (CSKT), Joe Skorupa (USFWS), Myla Kelly (MDEQ), Michel Ryan-Aylward (BC ENV); Marko Adzic (Teck), Bill Arling (North Coal), Dave Hadden (Headwaters Montana), Greg Hoffman (USACE), Karen Nelson (USFWS), Lars Sander-Green (Wildsight), Trevor Selch (MT FWP), Ayn Schmit (USEPA), Stella Swanson (Elk River Alliance)

Meeting Summary
Co-chairs began the meeting with an introduction, meeting objective, and outlined the expectation of observers on the call is to remain as a listener unless invited to participate.

Myla Kelly (MDEQ) gave an update on plans for the fall in-person MRC and SeTSC meeting. A formal announcement will be sent out soon which will include additional details. The meeting will be held November 13 and 14 in Whitefish, MT at the Grouse Mountain Lodge. A room block with a discounted rate at the Lodge is available for attendees. In association with the MRC/SeTSC in-person meetings there will be two public meetings held the evening of November 12 (Libby, MT) and November 13 (Eureka, MT). Myla Kelly opened the call for questions and comments and encouraged people to contact her directly with suggestions for improvements from previous years.

Lauren Sullivan (MDEQ) gave an update on the State of the Lake and Data Compilation. Lotic Environmental has been working to update the previous data compilation spreadsheets and State of the Lake Data Compilation Report to include 2017 and 2018 data. MDEQ understands this is arriving later than expected but when it does arrive it will be uploaded to the Lake Koocanusa wiki site and circulated to the SeTSC. It was also noted that all US data included in these spreadsheets can be found on the national WQX portal and BC ENV is working to upload the Canadian data to this same site. Once the Canadian data is uploaded, all data included in the Data Compilation spreadsheets (used for modeling) will be found on the WQX portal found at https://www.waterqualitydata.us/

Joe Beaman (USEPA) walked the group through a presentation on the bioaccumulation factor (BAF) approach. The presentation was previously circulated to SeTSC members and observers.

The presentation covered BAF background (what is a BAF, considerations for BAF approach), the use of BAFs in Lake Koocanusa site specific criteria process, and provided an example of BAF calculations using a subset of 2015 Lake Koocanusa data. Presentation materials included key points regarding BAF uncertainties and assumptions. It was pointed out that the BAF approach is secondary to the primary USGS ecosystem-scale mechanistic model and is meant to groundtruth the mechanistic model.
In the case of Lake Koocanusa there are rich data for fish tissue and water quality so the SeTSC thought it would be good to include a BAF approach.

The BAF presentation highlighted several modeling decisions and assumptions yet to be made by the SeTSC. There was discussion on how these decisions will be documented, how they will be made, and when they will be made.
Action Item: SeTSC co-chairs will draft a table of modeling decisions and assumptions to circulate to the SeTSC for input.

The presentation walked through one conceptual example of how to use a BAF approach may be applied using Peamouth Chub data near the Elk River. The example used data water quality and egg/ovary data from a period of several days during spring 2015. This example was provided as an exercise to understand how the BAF calculations are done, to generate discussion, and to highlight the decisions and assumptions yet to be made by the SeTSC. It was emphasized that the examples in the presentation are for illustrative purposes only.

Joe Skorupa (USFWS) made the comment that ovary data is a surrogate for egg data so where there is information regarding the reproductive stages of the individual fish, that this should be considered in the modeling efforts.

David Janz (U. of Sask.) asked a question about diet analysis and stomach purging as part of the data recent data sampling efforts.

Trevor Selch (MT FWP) commented that fisheries crews in the 1980's-1990's had collected extensive fish diet data. Although it was not feasible to match those same sampling efforts in recent years, there has been stomach analysis done which have shown the same results as the data from the 1980's-1990's show.

David DeForest (Windward Env.) generated discussions on the SeTSC process for making decisions about how the data will be used in modeling. Joe Beaman suggested much deliberation could occur at the in-person fall meeting. Sheldon Reddekopp noted that many of these decisions are outlined in the WorkPlan under section 4.0 and as the data compilation arrives from Lotic Environmental, the SeTSC can move into more detailed conversations about these data assumptions and decisions.

Stella Swanson (Elk River Alliance) asked two questions that the co-chairs will answer in follow-up emails: To what extent do the BAF and mechanistic models assume confidence in knowledge of effects from all stressors, not just selenium? And has the committee considered selenium partitioning to sediment to water?

Marko Adzic (Teck) asked what would happen if the BAF model and the mechanistic model had different results? Joe Skorupa explained that part of the value of using the BAF model is that it will tell us whether we have an adequate understanding of the system. If our understanding is correct then the two models will have similar results. If not, then that will help the committee to identify knowledge gaps or lack of understandings that can be addressed. Sheldon elaborated that if results between the models differ, exploring those results would follow the scientific method to understand the differences and the data and include robust discussion at the SeTSC.

In closing the discussion on Joe Beaman's presentation, Sheldon explained that the SeTSC is well ahead of needing to apply the levels of protection and make decisions about how data will be handled. First the final data sets need to be compiled so the committee can thoroughly explore them and understand

the system. These are important discussions, but it's a bit early to dive into them before we build our understanding of the system.

Co-chairs spoke briefly about the technical support document and how it will be used in the standards setting process. It will be co-authored by BC ENV and MDEQ. Co-chairs gave notice to SeTSC members that they may be asked to review sections of the document in-order-to ensure that technicalities have been explained accurately.

Co-chairs walked through the Next Steps and arrangements for the next SeTSC conference calls.

Action Item: Co-chairs with assistance of Michel Ryan-Aylward will send out a doodle poll for September and October meetings; As the data compilation is submitted to MDEQ, co-chairs will upload that information to the wiki and update SeTSC members and observers that it is available.